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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,789	02/18/2004	Ji-Bin Du	250119-1130	2710

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EXAMINER

TRAN, HENRY N

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/780,789

Applicant(s)

DU ET AL.

Examiner

Henry N. Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-10 and 13 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Application has been examined. The original claims 1-13 are pending. The examination results are as follows.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawada et al (U.S. Patent No. 6,703,792, hereinafter “Kawada”).

Re claim 1, Kawada teaches a driving method for a plasma display panel (PDP) (100), said PDP comprising a plurality of first common electrodes (even sustain electrodes X2, X4), a plurality of second common electrodes (odd sustain electrodes: X1, X3, X5), a plurality of scanning electrodes (Y1~Y4), a plurality of data electrodes (A), and a plurality of pixel units (101), wherein the pixel units belonging to a row of odd number (L1, L3, ...) are odd pixel units and are defined by said second common electrodes (X1, X3,...) and said scanning electrodes (Y), the pixel units belonging to a row of even number are even pixel units and are defined by said first common electrodes and said scanning electrodes, and image data of said pixel units is inputted by said data electrodes, see Fig. 15, col. 15, line 21-27, and col. 16, lines 12-24; said driving method comprising: (a) processing a reset operation, providing an odd-field address

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period and sequentially making each of voltage differences between said second common electrodes and the corresponding scanning electrodes larger than a discharge threshold voltage (see Fig. 20; during the reset period: voltage differences $V_{w-0} = V_w > V_{fxy}$, $V_x - (-V_y) = V_x + V_y > V_{fxy}$), and selectively inputting the image data (V_a) to said data electrodes (A); (b) providing an odd-field sustaining-discharge period (sustain discharge period), and inputting a first sustaining discharge pulse (V_s) and a second sustaining discharge pulse (V_s), which are out of phase to each other, respectively to said scanning electrodes and said second common electrodes; (c) processing the reset operation providing an even-field address period and sequentially making each of voltage differences between said first common electrodes and said scanning electrodes larger than the discharge threshold voltage (see Fig. 21: $V_x - (-V_y) = V_x + V_y > V_{fxy}$), and selectively inputting the image data (V_a) to said data electrodes (A); and (d) providing an even-field sustaining-discharge period and inputting a third sustaining discharge pulse (V_s) and a fourth sustaining discharge pulse (V_s), which are out of phase to each other, respectively to said scanning electrodes and said first common electrodes, see col. 17, lines 32 to col. 20, line 36.

Re claim 2, Kawada further teaches that the step (a) further comprising: (a1) making each of the voltage differences between said second common electrodes and said corresponding scanning electrodes larger than a reset threshold voltage ($V_{w-0} > V_{fxy}$, see col. 17, line 51-65); and (a2) sustaining a first positive voltage (V_x) to each of said second common electrodes (odd sustain electrode), and sequentially applying a negative voltage pulse ($-V_y$) respectively to each of said scanning electrodes (odd scanning electrode), and selectively applying a positive voltage pulse (V_{aw}) to each of said data electrodes according to the image data to be displayed., see Fig.

21).

Re claim 3, Kawada further teaches that the step (b) further comprising: sustaining a second positive voltage (V_e) to each of said data electrodes (addressing electrode), applying a first alternating-current voltage (V_s), a second alternating-current voltage (V_s), and a third alternating-current voltage (V_s) respectively to each of said scanning electrodes (“even scanning electrode”), each of said second common electrodes (“odd sustain electrode”), and each of said first common electrodes (“even sustain electrode”), wherein said first alternating-current voltage is out of phase to said second alternating-current voltage, and is in phase to said third alternating-current voltage, see Fig. 21.

Re claim 4, Kawada further teaches that the step (c) further comprising: (c1) making each of the voltage differences between said first common electrodes and said corresponding scanning electrodes larger than a reset threshold voltage ($V_{w-0} = V_w > V_{fxy}$); and (c2) sustaining a first positive voltage (V_x) to each of said first common electrodes (“even sustain electrode”), and sequentially applying a negative voltage pulse ($-V_y$) respectively to each of said scanning electrodes (“even scanning electrode”), and selectively applying a positive voltage pulse (V_a) to each of said data electrodes according to the image data to be displayed, see Fig. 21.

Re claim 5, Kawada further teaches that the step (d) further comprising: sustaining a second positive voltage (V_e) to each of said data electrodes, applying a fourth alternating-current voltage (V_s), a fifth alternating-current voltage (V_s), and a sixth alternating-current voltage (V_s) respectively to each of said scanning electrodes (“even scanning electrode”), each of said second common electrodes (“odd sustaining electrode”), and each of said first common electrodes (“even scanning electrode”), wherein said fourth alternating-current voltage is out of phase to

said sixth alternating-current voltage, and is in phase to the fifth alternating-current voltage, see Fig. 21.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawada (U.S. Patent No. 6,703,792) in view of De Zwart et al (U.S. Patent No. 6,512,336, hereinafter referred to as “De Zwart”).

Kawada teaches generally all as discussed for claims 1-5 above, except for “a plurality of pixel units disposed in delta arrangement (claim 10); wherein each of said odd pixel units and the adjacent even pixel units correspond to a same data electrode, and said odd pixel units and said even pixel units are arranged alternately.

De Zwart, Figs. 3 and 7, teaches a driving method for a plasma display panel (PDP) (12), which has a plurality of pixel units (cells) disposed in delta arrangement (“checker-board fashion”, col. 4, lines 35, or “delta-nable structure”, col. 6, lines 4-10); wherein, each of said odd pixel units and the adjacent even pixel units correspond to a same data electrode (“address electrode 5”, and said odd pixel units and said even pixel units are arranged alternately.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the pixel units arrangement as taught by De Zwart in the Kawada plasma display panel because this would provide an improved plasma display system capable of

reducing line flicker or spurious discharges, and increasing the display brightness; see De Zwart, col. 2, lines 46 and 52. By this rationale, claims 8-10 and 13 are rejected.

Allowable Subject Matter

5. Claims 6, 7, 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

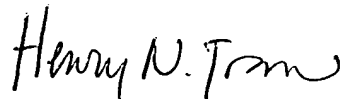
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are U.S. Patents Nos.: 6,677,714 issued to Du et al., and 6,992,645 issued to Kim et al., which teach method and apparatus for driving plasma display panels.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry N. Tran whose telephone number is 571-272-7760. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin H. Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Henry N Tran
Primary Examiner
Art Unit 2629

HT 

8/4/06